

Series AM3TW-RVZ

3 Watt | DC-DC Converter



FEATURES:

- Wide Input Range (4:1)
- 24 Pin DIP Package
- Metal Package
- High Efficiency up to 79%
- Operating Temperature -40°C to + 85°C
- Input / Output Isolation 1500 VDC
- Pin Compatible With Multiple Manufacturers
- Continuous Short Circuit Protection



Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load Max (μF)	Input Current Full No Load (mA)		Efficiency (%)
AM3TW-2405S-RVZ	9-36	5	600	2200	178	20	70
AM3TW-2409S-RVZ	9-36	9	333	470	174	20	72
AM3TW-2412S-RVZ	9-36	12	250	470	167	20	75
AM3TW-2415S-RVZ	9-36	15	200	470	167	20	75
AM3TW-2424S-RVZ	9-36	24	125	220	169	30	74
AM3TW-4805S-RVZ	18-72	5	600	2200	83	10	75
AM3TW-4809S-RVZ	18-72	9	333	470	81	10	77
AM3TW-4812S-RVZ	18-72	12	250	470	79	10	79
AM3TW-4815S-RVZ	18-72	15	200	470	79	10	79
AM3TW-4824S-RVZ	18-72	24	125	220	82	10	76

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load Max (μF)	Input Current Full No Load (mA)		Efficiency (%)
AM3TW-2405D-RVZ	9-36	±5	±300	±1000	178	20	70
AM3TW-2409D-RVZ	9-36	±9	±167	±220	173	20	72
AM3TW-2412D-RVZ	9-36	±12	±125	±220	169	20	74
AM3TW-2415D-RVZ	9-36	±15	±100	±220	169	20	74
AM3TW-2424D-RVZ	9-36	±24	±63	±100	176	30	73
AM3TW-4805D-RVZ	18-72	±5	±300	±1000	85	10	73
AM3TW-4809D-RVZ	18-72	±9	±167	±220	83	10	75
AM3TW-4812D-RVZ	18-72	±12	±125	±220	80	10	78
AM3TW-4815D-RVZ	18-72	±15	±100	±220	80	10	78
AM3TW-4824D-RVZ	18-72	±24	±63	±100	82	10	76

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage Range	24 48	9-36 18-72		VDC
Filter	π (Pi) Network			
Absolute Max Rating	24 Vin 48 Vin	-0.7-40 -0.7-80		VDC
Start Up Time		20		ms
Peak Input Voltage Time		15		ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O Voltage	60 sec		1500	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage Accuracy		±1		%
Short Circuit Protection	Continuous			
Short Circuit Restart	Auto Recovery			
Line Voltage Regulation		±0.5		%
Load Voltage Regulation		±0.5		%
Temperature Coefficient		±0.02		%/°C
Ripple & Noise *	At 20MHz Bandwidth	60		mV p-p
Voltage Balance	Balanced Load	±1		%

* In order to achieve ripple and noise specification, a 100µF capacitor is required to be connected to the output of the converter

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching Frequency	100% load	100-400		KHz
Operating Temperature	Full Load (see derating chart)	-40 to +85		°C
Storage Temperature		-40 to +125		°C
Max Case Temperature			100	°C
Cooling	Free air convection			
Humidity			95	%
Case Material	Nickel coated copper			
Weight		12.16		g
Dimensions (L x W x H)	Tolerance ±0.5 mm or ±0.02 inches	1.25 x 0.8 x 0.4 inches	31.75 x 20.32 x 10.16 mm	
MTBF	>1,000,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

Safety Specifications

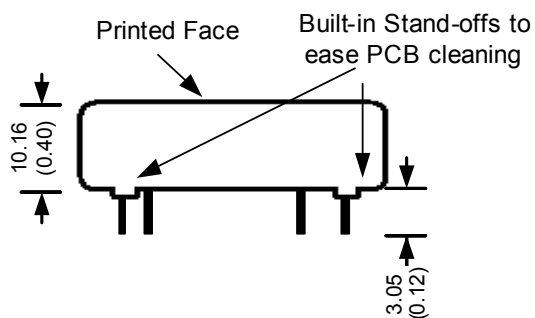
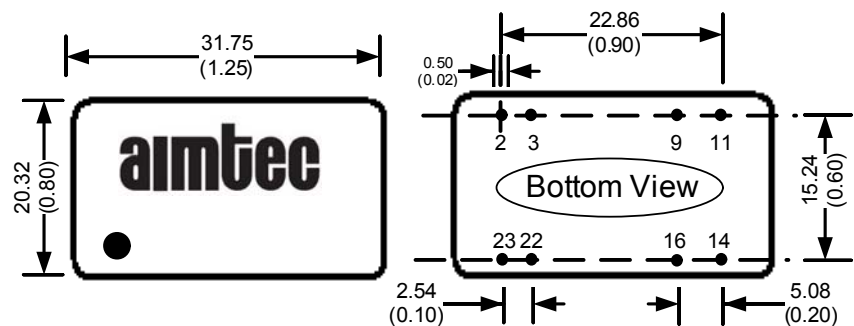
Parameters	
Standards	Designed to meet IEC 60950-1

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Pin Out Specifications

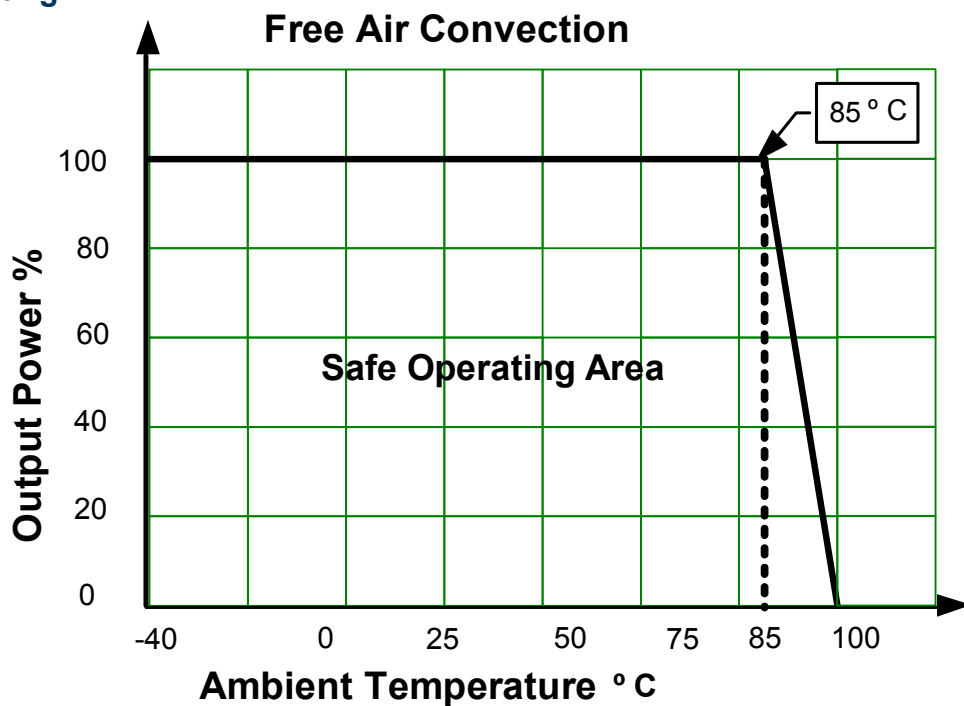
Pin	1500 VDC	
	Single	Dual
2	-V Input	-V Input
3	-V Input	-V Input
9	No pin	Common
11	N.C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

Dimensions

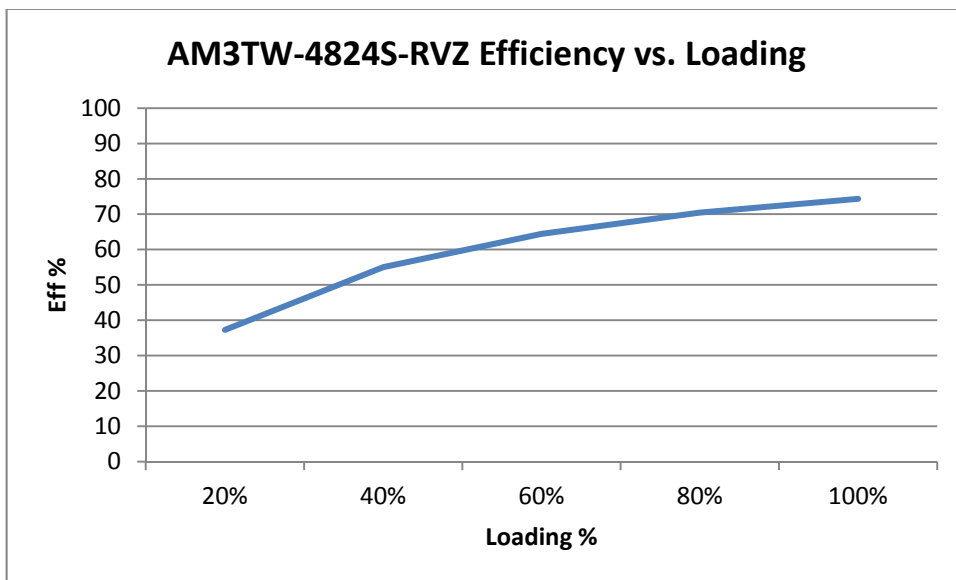
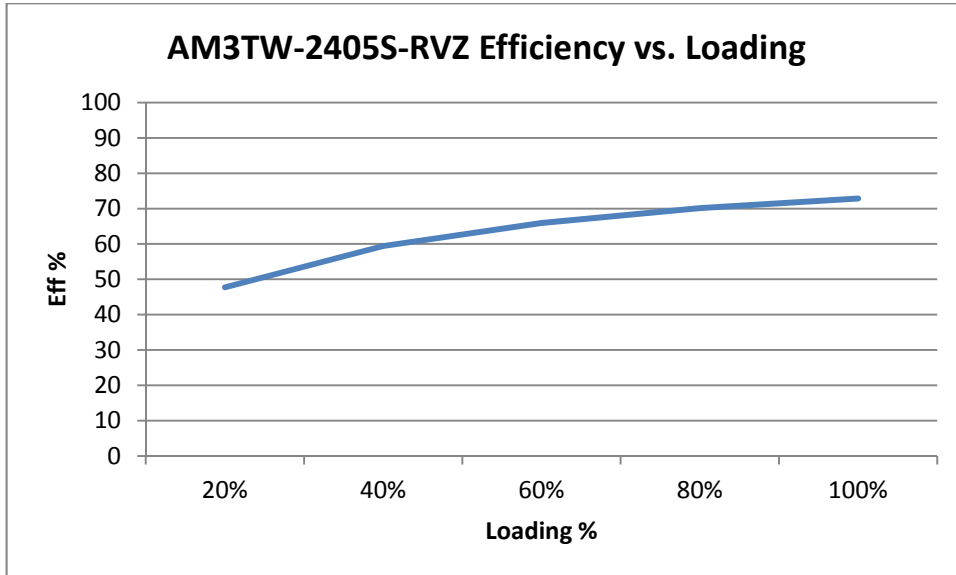


All dimensions are typical: millimeters (inches)
 Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
 Pin Pitch Tolerance: ± 0.35 (± 0.014)
 Case Tolerance: ± 0.5 (± 0.02)

Derating



Typical Efficiency Example Charts



NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.